

REMARKS

Claims 1-24 are pending herein, claims 1 and 13 being independent. Claims 1, 3, 4, 6, 8, 10-13, 15, 16, 18, 20 and 22-24 have been amended; claims 2, 5, 7, 14, 17 and 19 have been canceled. No new matter has been added.

In the pending Office Action, the Examiner has rejected claims 1-24 under 35 U.S.C. § 112 (1st para.) for allegedly failing to enable the claimed invention. Specifically, the Examiner stated (page 2 of the Office Action) that the specification failed to enable the claimed feature of “optimization”. The Examiner also rejected the claims under 35 U.S.C. § 112 (2nd para.) as allegedly vague and indefinite for use of the term “optimizing”, as that term was alleged to be indefinite. It appears these two rejections are based upon the Examiner’s contention that the term “optimizing” is a relative term (page 3 of the Office Action) and therefore indefinite. Continuing, the Examiner contends that, since the term is (allegedly) indefinite, the specification fails to enable it. Applicants respectfully disagree with the Examiner’s said contentions, and therefore request the withdrawal of these rejections.

The specification uses the term “optimizing” (and/or other forms of the word: “optimize”; “optimization”, *etc.*) in a manner sufficient to assume that one of ordinary skill in the art would have no problem understanding what that term means. For example, paragraphs [0010] and [0011] use the term. More specifically, paragraph [0015] of the application as published succinctly defines the term:

[0015] A preferred embodiment of the inventive system further comprises means for optimizing the exchange of payment messages between the payment server and the payment application. This optimization reduces the number of messages that are or need be transmitted over the telecommunication connection, thereby realizing an advantageous savings in available radio interface capacity and enhancing security.

Thus, “optimization” is expressly defined as “reduc[ing] the number of messages that are or need to be transmitted over the telecommunication connection.” The term is clearly defined in the specification, and so is not indefinite in the claims. M.P.E.P. § 2173.05(a). (“When the specification states the meaning that a term in the claim is intended to have, the claim is examined using that meaning, in order to achieve a complete exploration of the applicant's invention and its relation to the prior art.”)

Even if applicants had not expressly defined the term, however, “optimize” is a common English word, with a well-understood meaning of

1. to make as effective, perfect, or useful as possible.
3. *Computers.* to write or rewrite (the instructions in a program) so as to maximize efficiency and speed in retrieval, storage, or execution.

Dictionary.com Unabridged (v 1.1)

Based on the Random House Unabridged Dictionary, © Random House, Inc. 2006.

Thus, the term to which the Examiner objects has a meaning which is common and well-understood, and needs no further explanation in the application. In the absence of a clear expression of intent to define a term other than the way that it is commonly understood, that term must be construed in accordance with its common meaning. M.P.E.P. § 2111.01 (“[T]he words of the claim must be given their plain meaning unless the plain meaning is inconsistent with the specification.”). Here, the term “optimize” (in its various forms) is a common and well-understood term, and the term is additionally defined in the specification. The definition in the specification is fully consistent with the “dictionary” definition, and so neither the term itself nor the way the term is used is indefinite.

Furthermore, it is noted that claims 1 and 13, the claims in which the cited language is found, expressly recite the steps by which the optimization is performed:

Claim 1 . . . “optimizing exchange of payment messages . . . by . . . “

The claims are therefore clear, and expressly define the term “optimizing”. Additionally, the specification fully explains what is meant by “optimizing” and supports the use of that term in the claims. M.P.E.P. § 2164.01; *United States v. Telectronics, Inc.*, 8 USPQ2d 1217, 1223 (Fed. Cir. 1988) (“The test of enablement is whether one reasonably skilled in the art could make or use the invention from the disclosures in the patent coupled with information known in the art without undue experimentation.”).

In light of the teachings of the specification, the express explanation in the claims themselves of how the optimization is to be performed, and the fact that “optimization” *per se* is fully understood in the art even without such teaching or explanation, one of ordinary skill in the art would have no problem in understanding how to make and use the invention. Therefore, the claims are deemed to be fully enabled.

For these reasons, it is respectfully requested that these rejections under 35 U.S.C. § 112 (1st and 2nd paras.) be withdrawn.

The Examiner also rejected claims 8 and 20 under 35 U.S.C. § 112 (1st para.) on the ground that the phrase “insuring operability of communication between the payment application and the payment server” is not defined. Relatedly, the Examiner rejected these same claims under 35 U.S.C. § 112 (2nd para.) as vague and indefinite for use of the same term. By the above amendment, the phrase to which the Examiner objected has been removed from claims 8 and 20. Accordingly, withdrawal of this rejection is likewise respectfully solicited.

The Examiner further rejected the claims under 35 U.S.C. § 112 (2nd para.) for using various other terms which the Examiner alleged to be vague and indefinite.

Specifically, the Examiner objected to the various uses of the terms “message” as being indefinite since many different messages are involved. By the amendment above, the claims have been amended to differentiate between the various messages, and it is accordingly requested that this rejection also be withdrawn.

The Examiner also rejected claims 4 and 7 under 35 U.S.C. § 112 (2nd para.) for use of the term “based on”, and claims 16 and 19 for use of the term “basing”. Claims 4 and 16 have been amended to remove the language to which the Examiner objected, and claims 7 and 19 have been canceled. Thus, withdrawal of these rejections is solicited.

The Examiner rejected claims 9 and 21 as vague and indefinite for use of the term “short” to describe the messages claimed therein. The Examiner contended that “short” is a relative term, and therefore was vague and indefinite. The applicants respectfully traverse this rejections as being unfounded. The term “short” is not used alone in either claim 9 or 21, but rather as part of the phrase “short message”. “Short message” is a term of art in the field of communications, referring to a message sent in accordance with the Short Message Service (SMS) protocol, and one of ordinary skill in the art would readily appreciate that meaning. The following is a common definition of the term “short message” downloaded from a web site specializing in explaining terms used in mobile computing:

short message

DEFINITION- 1) A short message is a brief text message sent to or from a mobile phone subscriber through the Short Message Service (SMS). The standard short message consists of up to 160 alphanumeric characters, although messages at least 50% longer can be sent using data compression. Developed as part of the Global System for Mobile communications (GSM) Phase 1 standard, a short message is exchanged between two mobile devices or between a nonmobile device and a mobile device (for example, a short message can be sent from a PC attached to the Internet to a mobile subscriber). Short messages are stored in and forwarded from a Short

Message Service Center (SMSC) so that - unlike the user of a pager - the recipient can get messages that arrive when their mobile device is not turned on.

SMS compression increases the amount of text that can be sent, and SMS concatenation enables short messages to be strung together into a longer one. Users of devices that are not SMS-enabled can send short messages using an alternate version known as *Internet SMS*.

2) Instant messaging (IM) messages are also sometimes referred to as short messages. To make the most of a short message, people frequently use a shorthand typing mixture of letters and numerals known as Alphanumeric.

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http://searchmobilecomputing.techtarget.com/sDefinition/0,290660,sid40_gci773769,00.html
(Downloaded February 14, 2007)

Thus, the term “short” in the phrase “short message” is not a relative term, but rather part of a well-understood term of art, known to those of ordinary skill in the art, and is therefore not indefinite. *Xerox Corp. v. 3Com Corp.*, 80 USPQ2d 1916, 1922 (Fed. Cir. 2006) (otherwise undefined term was not a “term of art” and so was indefinite.).

The Examiner also rejected several claims under 35 U.S.C. § 112 (2nd para.) for use of acronyms that are defined in the specification: claims 10 and 22 for use of “USSD”; claims 11 and 23 for use of “WAP”; and claims 12 and 24 for use of “GPRS”. By the amendment above, each of these claims has been amended to replace the acronym with the meaning thereof found in the specification. Accordingly, withdrawal of these rejections is solicited.

For all these reasons, therefore, it is respectfully submitted that all rejections under 35 U.S.C. § 112 be withdrawn.

The Examiner also rejected claims 1-8 and 13-20 under 35 U.S.C. § 102(e) as allegedly anticipated by United States Patent No. 6,282,522 (Davis, *et al.*); claims 9-10, 12, 21-22 and 24 under 35 U.S.C. § 103(a) as obvious over Davis, *et al.* in view of United States Patent No. 5,930,701 (Skog); and claims 11 and 23 under 35 U.S.C. § 103(a) as obvious over Davis, *et al.* in

view of United States Patent No. 6,199,099 (Gershman, *et al.*). The applicants have carefully considered the Examiner's rejections and the reasons given in support thereof, and respectfully submit that the claims are patentably distinct from the applied references, either taken alone or in any combination.

The following description of applicants' invention is taken from the specification, and is provided for the convenience of the Examiner. It is not intended to argue limitations not found in the claims or to restrict the ambit of the claims.

The invention is directed to a method and system for optimizing the exchange of payment messages (*i.e.*, reducing the number of messages sent) between a payment application on a smart card and a payment server over a telecommunications network. Ordinarily, the smart card is used in an environment where the network involves the use of wireless networking or radio transmissions, so that the number and duration of messages sent over such a network are of the utmost importance in speeding transactions -- unlike internet transactions, where near-instantaneous messaging is the norm.

In accordance with the invention, a first message to be transmitted from the payment application to the payment server is stored in the smart card client. In response to that first message, the smart card client sends a first response message to the payment application. The smart card client then sends a second message to the smart card server, the second message including at least some parts of the first message and the first response message. The smart card server stores the second message, and sends a third message from the smart card server to the payment server in response to the second message. The smart card server receives a second response from the payment server and sends the smart card client a fourth message which includes at least some parts of the second message and the second response message.

One of ordinary skill in the art would appreciate that the claimed optimization is effected in part because the messages are primarily transmitted within a single environment, and minimizes the transmission of messages between environments, *i.e.*, *via* the wireless transmissions.

Specifically, messages are transmitted between the smart card client and the payment application, both of which are located on the smart card identity module located within the smart card itself (the first environment). Similarly, messages are passed between the smart card server and the payment server, both of which are on the network (the second environment). According to the invention, therefore, the messages which travel between these two environments are minimized. It is the transmission of information between these two environments which takes place at the slowest speed, and is therefore the main cause of delay and resulting consumer dissatisfaction.

By minimizing the transmission of information between these environments, the inventive method and system reduces the number of messages exchanged to accomplish a payment, which speeds the process and results in a savings due to the lower number of crossings of the radio interface and reduces response times, which makes the application easier to use and more responsive to the user.

This may be readily contrasted with the system taught by Davis, *et al.* The Davis, *et al.* system is directed to an internet payment system using smart cards. At the outset, the fact that the Davis, *et al.* system is intended for use over the Internet means that the system is not sensitive to the number of messages sent or the duration of the messages, since the time needed for sending messages regarding payment is negligible. Davis, *et al.* would have no interest in optimizing the number and length of messages. Thus, one of ordinary skill in the art would

appreciate that there is no teaching in Davis, *et al.* that would impact the primary goal of the instant invention: i.e. optimizing the exchange of messages to effect a smart card payment.

The claimed system itself, is also quite different. Davis, *et al.* describe a system for making smart card purchases over the Internet. See description commencing at Davis col. 10, line 30 and illustrated in Davis Fig. 4 (internet 202 bridges all communications between the various modules, except between the actual card 5 and the card reader 210). There is no teaching of the use of a payment application on the smart card, and that would not be necessary to optimize the sending of messages from card 5 because that is not necessary to effect the system taught by Davis, *et al.*

According to Davis, *et al.*, a specific client module on a client terminal controls the interaction with a consumer and interfaces to a card reader which accepts the consumer's smart card and allows loading and debiting of the smart card. Debiting works in conjunction with a merchant server 208 and a payment server 206. Loading works in conjunction with a bank server and a load server which are not described by Davis, *et al.*, since the loading of smart card 5 is not a part of the Davis invention. Davis, *et al.*, fail to teach or suggest, or to even contemplate, the optimization of messages effecting the transactions. Thus, Davis, *et al.* fail to teach or suggest applicants' invention as claimed.

Furthermore, there is no teaching in Davis, *et al.*, or elsewhere, that any modification thereof could be performed to effect optimization of the messages. Thus, applicants' claimed invention is patentably distinct from that taught by Davis, *et al.* The addition of the Skog and/or Gershman, *et al.* patents overcomes none of the deficiencies of the Davis, *et al.* patent, and as a consequence the claimed invention is patentable over the references applied by the Examiner, in any combination.

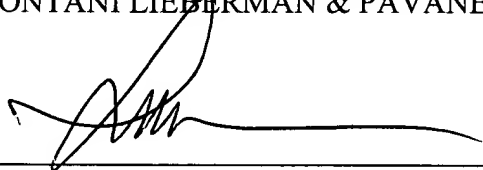
Allowance of all pending claims, and early passage of the application to issue, are therefore solicited.

It is believed that no fees or charges are required at this time in connection with the present application. However, if any such fees or charges are required at this time, they may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

Respectfully submitted,

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